Murtadha Saeed Nisyif

Computer Engineering Undergraduate

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Education

University of Guelph **Sep 2019 – May 2023**

Bachelor of Engineering: Major in Computer Engineering, Minor in Computer Science *Guelph, Ontario*

Skills

Languages: C/C++/C#, Python, JavaScript, Java, HTML, MATLAB, VHDL, CSS
Frameworks: Node.js, React.js, Express.js, NumPy, ROS(1 & 2), Pandas, Tensorflow, Django, FreeRTOS
Tools: Git, Docker, GCC, CMake, Xilinix, Quartus IV, Cadence Virtuoso
Databases: MongoDB, MySQL, SQLite

Relevant Work Experience

Reseach Assistant - Software developer **Oct 2022 – Present**

University of Guelph - Robotics Inistitute *Guelph, Ontario*

- Implemented multi-level data pipeline between depth cameras and FANUC arm achieving a modular operational system
- Assessed safety procedures incorporated in automation scripts of user-robot based interaction
- Authored ROS2 packages in C++ and Python for robotic arm manipulation improving operation accuracy to 20%
- Bridged between ROS1 and ROS2 nodes to support backwards compatibility of existing systems

Information Technology Analyst **Jul 2020 – Oct 2020**

Kitchener Downtown Community Health Centre - SRHC *Kitchener, Ontario*

- Used datasheet software to manage and log equipment upgrades with tight budget of $10,000 and short deadlines
- Devised a scheduling scheme to cut down call waiting times by 30% using existing PBS phone system
- Increased working flow efficiency by 20% through network infrastructure improvements, but brining about suitable computers network topology and equipment
- Saved $5,000 by implementing cost-saving initiatives that addressed long-standing problems

Relevant Projects

Text-to-Braille Real-Time Converter | *Python, Git, Eagle, Jira* **Apr 2023**

- Lead a group of 4 and coordinated with a NPO to design a novel solution that converts text-to-braille in real time while maintaining a challenging building cost of $250 CAD

Real-Time Security System | *STM32, FreeRTOS, µC-OS III* **Nov 2022**

- Built a real-time security system using a STM32f429 development board, a FHD camera and a PIR motion sensor by utilizing real-time systems concepts such as semaphores and interrupts to deliver a system with response times of 50 ms

buildNbox | *React, Git, Node JS, SQLite, Jira* **Aug 2022**

- Developed a REST api backend using Node JS for data retrieval from Amazon.ca using their rainfores api, resulting in instant and seemless browsing

StonkBot | *Python, Git, Matplotlib* **May 2022**

- Built an intuitive python API that stores players information and holdings of a cryptocurrency and stocks mockery investing game, achieving a scalable and integratble with external noSQL databases with ease

ZAMAZ UTI Diagnosis - Image Processor | *Python, NumPy, SciPy, Matplotlib* **Apr 2022**

- Developed and integrated a software system to automate bar volumetric readouts of urine sample tests by analyzing a captured image of the readout and performing pixel calculations to calculate the concentrations of bacteria. This system is 16 times faster than the current gold standard, and as a result, my team won a prize of $2,000 in a design competition among 50+ groups

Indoor CO_2 Level Monitor | *Microsoft Teams, ARM Assembly, Keil vision* **Oct 2021**

- Utilized K60 microcontroller and SIHM CO_2 carbon monitor sensor, formed a hardware and software interface design and designed a system to monitor CO_2 levels with user-friendly feedback to avoid potential COVID-19 and Influenza spreading

Extracurriculars

Gryphon AeroSpace **May 2021**

Software Engineering Executive

First Robotics Competition **Sep 2017, Sep 2018**

Builder, Automation programmer

Skills Ontario Competition **May 2018**

Builder, Software Developer